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Experts in cleanroom monitoring

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Gas Sampling Adapter for microbiological airsamplers

USER MANUAL

The GAS SAMPLING OPTION has been developed for monitoring of air biocontamination level in compressed gas lines. A micro organism that is capable of forming a viable colony forming unit (CFU) and which exists within the compressed air line system is called the microbiological particle (MP) as per ISO 8573-4:2001(E).

Working principle

The air to be sampled is drawn via an adjustable flow valve through a perforated head, at constant velocity and for a period of time depending on the sampling volume defined. The inflow air impacts in the surface of the culture media, chosen on the basis of the microbiological investigation to be carried out, placed in a 90 mm Petri dish. At the end of the sampling period the Petri dish is removed and placed into an incubator. At the end of the incubation it will be possible to count the CFU/m^3 and evaluate the air biocontamination level of the Gas line on the basis of air volume sampled .

Adapter content

Gas Sampling Adapter kit includes:

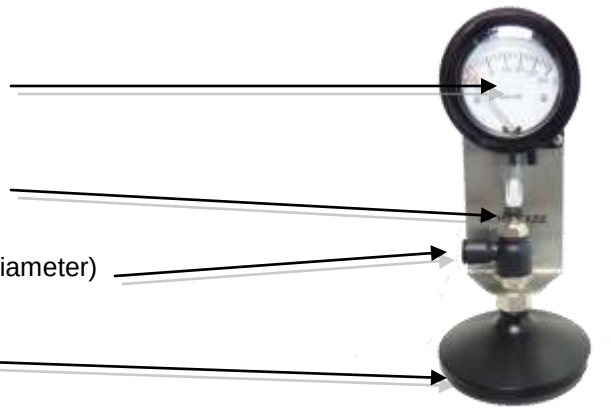
- Dome (fits for 90mm Impactor Sampling Head), including
  - Pressure indicator
  - Adjustable valve
- User manual in English

Technical data

Dimensions:	210 x 970 x 970 mm (W x D x H)
Weight:	0,4 Kg
Dome:	POM (Polyoxymethylene or Delrin)
Connection:	Quick disconnect for tubes of 10mm (OD)
Support:	Autoclavable anodised aluminium plate support for 60 and 90 mm ±2 mm plates.
Applied Pressure:	max 10 Bar
Sampled Air Volume:	Depending on used microbial Sampler

Components of Gas Sampling Adapter

- **Pressure Indicator**
  Adjust for 100Pascal ± 100Pascal during sampling.
- **Adjustable Flowvalve**
  Adjust for 100Pascal ±100Pascal during sampling.
- **High Pressure connector**
  Push-in quick discionnect adapter for 10mm (Outer Diameter)
- **Dome with O-ring**
  Fits in impactor sampling head



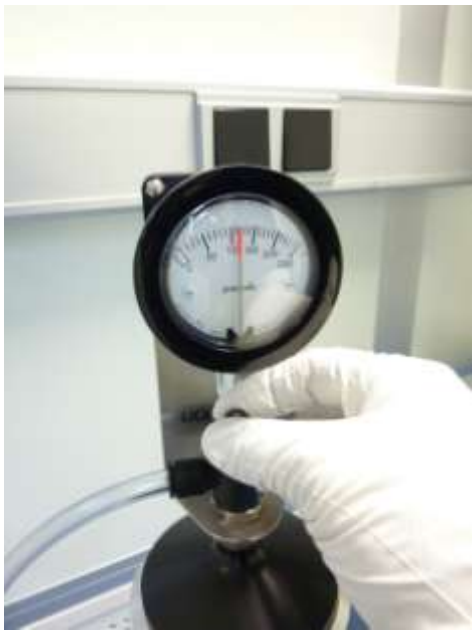
Preparing the unit

Before starting the actual microbiological sampling, the flow towards the Gas Sampling Adapter must be adjusted to 100 ltr/min, creating a light overpressure of 100 Pascal in the Dome. After preparation, place the agar plate into the unit.

WARNING: don't overpressure the microbial sampler, adjust the flow starting from closed valve position.

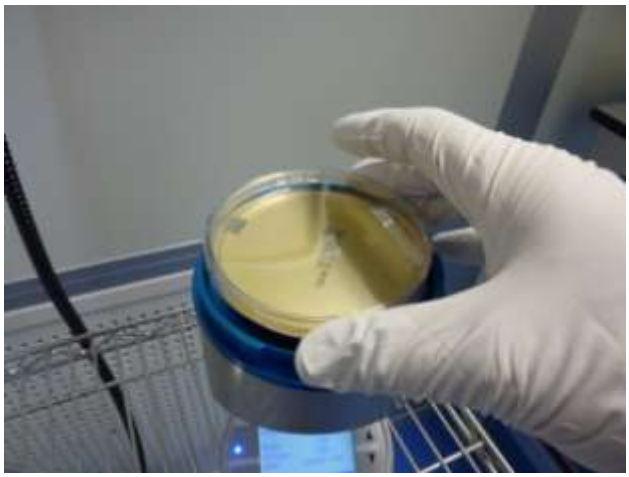
Step 1: Place Gas Sampling Dome onto Airsampler. Push O-ring into the sampling head.
Step 2 : Connect tube between Gas Sampling Outlet (customer gas outlet) and Gas Sampling inlet of the unit

Step 3 : Start Air Sampler (no Agar plate installed)
Step 4 : Adjust Flowvalve to obtain 100 Pascal on pressure indicator (±100Pascal)



Placing the plate

Wear sterile gloves. Remove the sampling head handling with care to avoid any contamination of its surfaces. Deposit the head on a clean surface.



Step 5 : Open the Airsampler by rotating the sampling head (including Gas Sampling Adapter) Place Agar Plate into the airsampler.

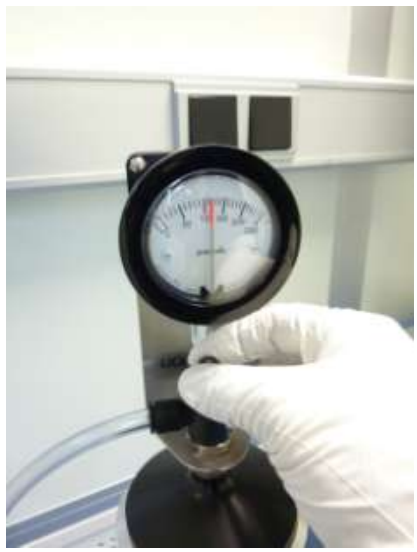
Step 6 : Place Agar Plate into the airsampler. Program the sampler for a given time or volume. Do not start the sampler jet.

Start Sampling

Step 7 : Place Gas Sampling Adapter including sampling head onto the airsampler. At the same time start the airsampler.

During Sampling

Step 8 : During the sampling period, keep maintaining the control valve to maintain 100Pascal (±100Pascal) overpressure. The flow indicator needle can drift to either position (due to the airsampler flow control system or change in compressed gas pressure).



End of Sampling period

Step 9 : Disconnect the sampling tube or close the flow valve, direct after the sampling period.
Step 10: Open the sampling unit and close the agar plate. Remove the plate for further incubation of the plate.

For further information concerning GSA please contact:

Lighthouse Worldwide Solutions Benelux BV.
Van Heemstraweg 19A
NL-6657KD – Boven Leeuwen, The Netherlands
Tel +31-487-560811 - FAX +31-487-560013
E-mail: Benelux@golighthouse.com